

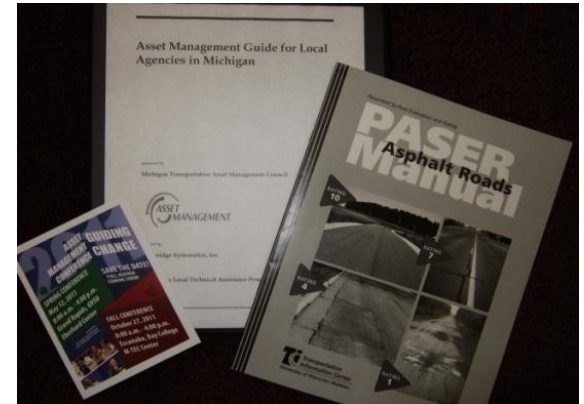
**Joint Committee**  
**Senate Infrastructure Modernization Committee**  
**House Transportation and Infrastructure Committee**

**Steve Warren, Deputy Director**  
**Kent County Road Commission**  
**Member**

**Michigan Transportation Asset Management Council**

**February 21, 2013**

- ✓ What is Asset Management
- ✓ Pavement Distress Rating
- ✓ What Roads to Fix & When
- ✓ Paved Road Conditions
- ✓ Implementing Pavement Preservation
- ✓ Bridge Conditions

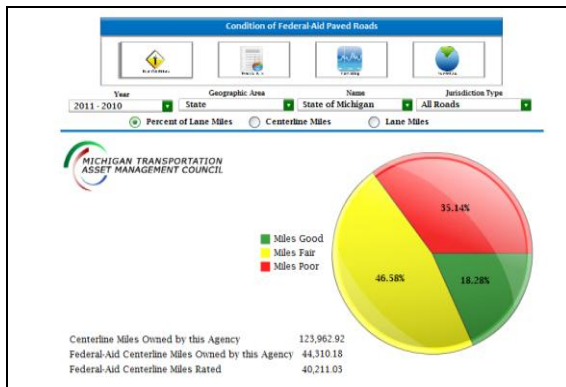


# What is Asset Management?

**Asset Management :** “An ongoing process of maintaining, upgrading and operating assets cost-effectively, based on a continuous, physical inventory and condition assessment.” [MCL 247.659(a)]

**TAMC responsibility :** “...advising the Commission on a statewide asset management strategy and the processes and necessary tools to implement such a strategy...” [MCL 247.659(2)]

## Promote Best Practice in Pavement and Bridge Preservation



**Data**



**Tools**



**Training**

# What is Asset Management?

## Four Step Process

**Monitoring & Reporting**  
(Road Condition Rating)



**Goals & Objectives**  
(Long-Range Vision)



**Plans & Programs**  
(Multi-Year Program)



**Program Delivery**  
(Implementation)

## TAMC Support

### Surface condition rating: PASER

- MDOT, county, city/village, RPO
- Federal and non-federal aid roads

### Analyze improvement options

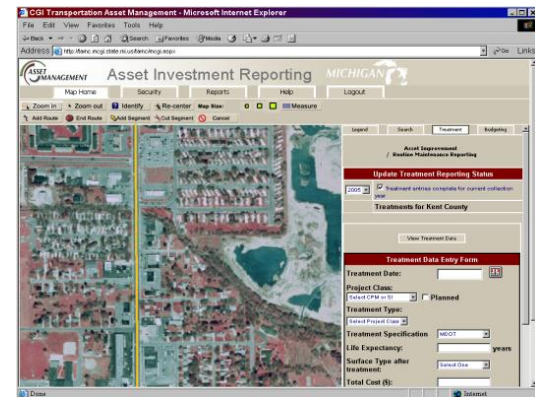
- RoadSoft Training
- Network and project level analysis

### Three – Five Year Program

- Pavement Preservation Targets
- Major Rehab. and Reconstruction
- Report to TAMC (Act 51 Report)

### Document project completion

- Completed improvements
- 3yrs planned projects
- Report to TAMC (Act 51 Report)





# Pavement Distress Rating

**GOOD**



PASER = 10, 9, 8

Routine Maintenance

- Crackseal

**FAIR**



PASER = 7, 6, 5

Preventive Maintenance

- Crackseal
- Surface Treatments
  - Chip Seal
  - Microsurface
- Concrete Joint Repair

**POOR**



PASER = 4, 3, 2, 1

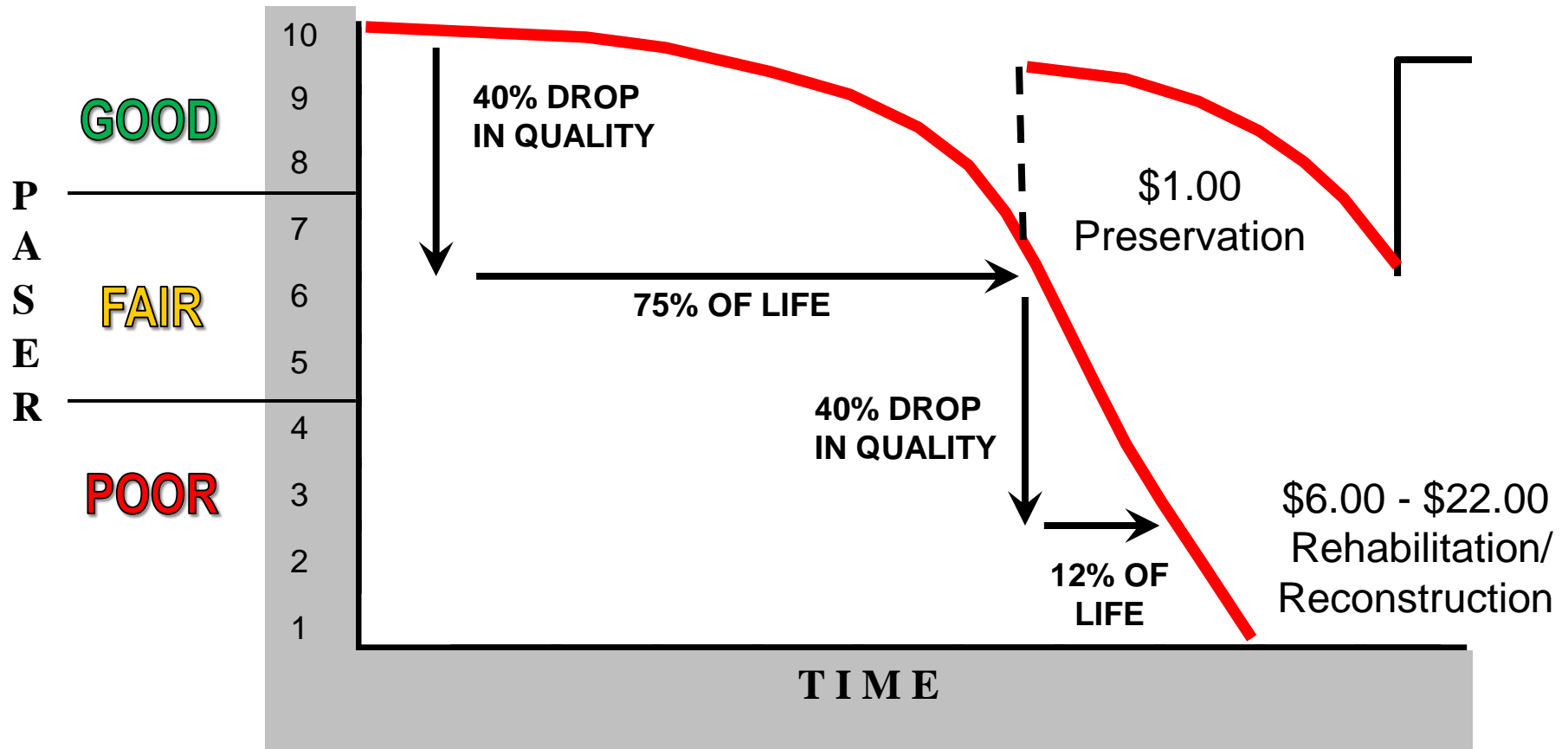
Rehab/Reconstruct

- Structural Resurface
- Pot Hole Patching
- Replace Concrete Slabs
- Complete Reconstruct

# What Roads to Fix and When

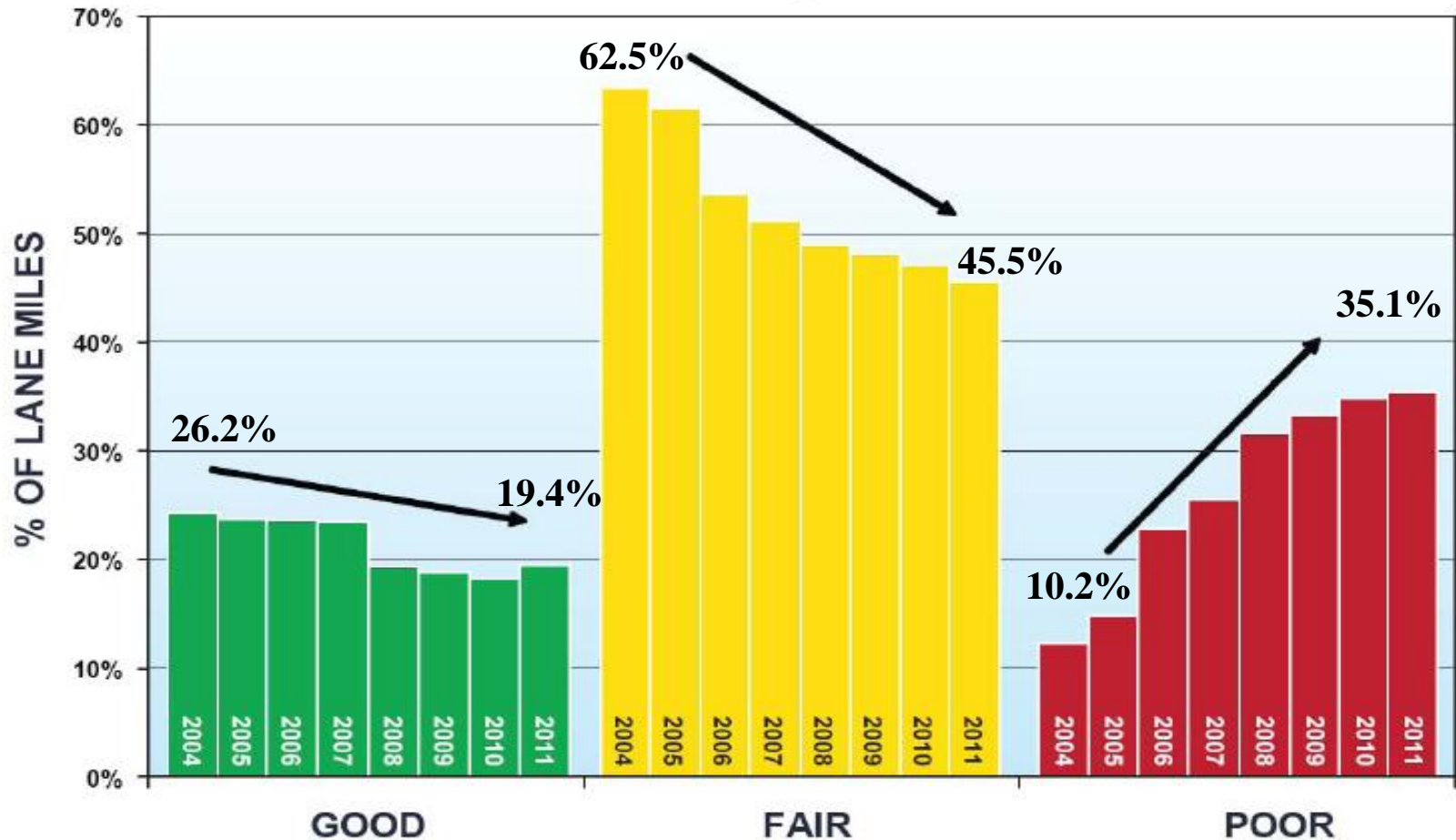
## Maintaining Roads in Good Condition

*“Right Fix on the Right Road at the Right Time to Maximize Return on Investment”*



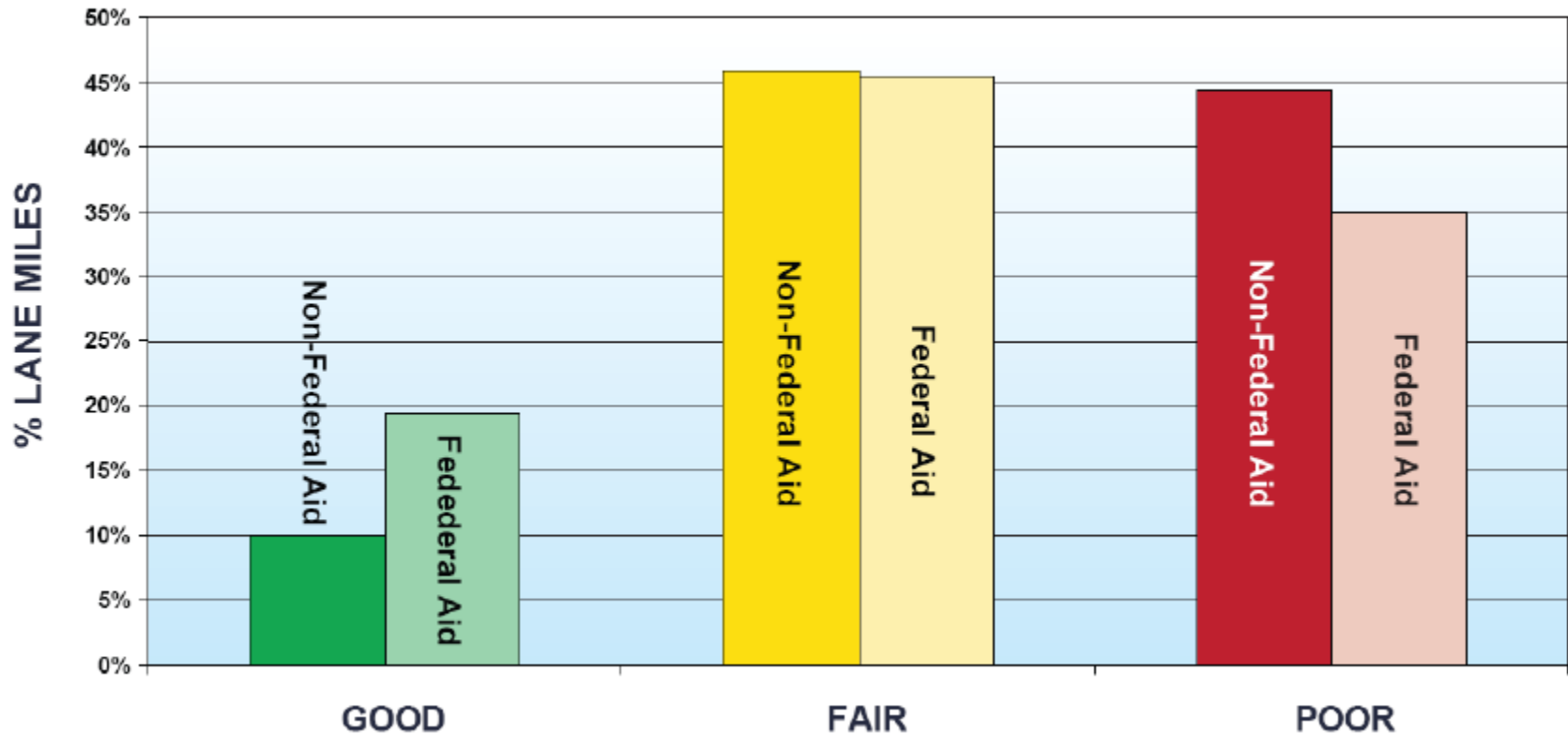
# Paved Road Conditions

## 2004 - 2011 Pavement Condition Federal-Aid Eligible Roads



# Paved Road Conditions

## 2011 Condition of Paved Roads Federal Aid vs. Non-Federal Aid

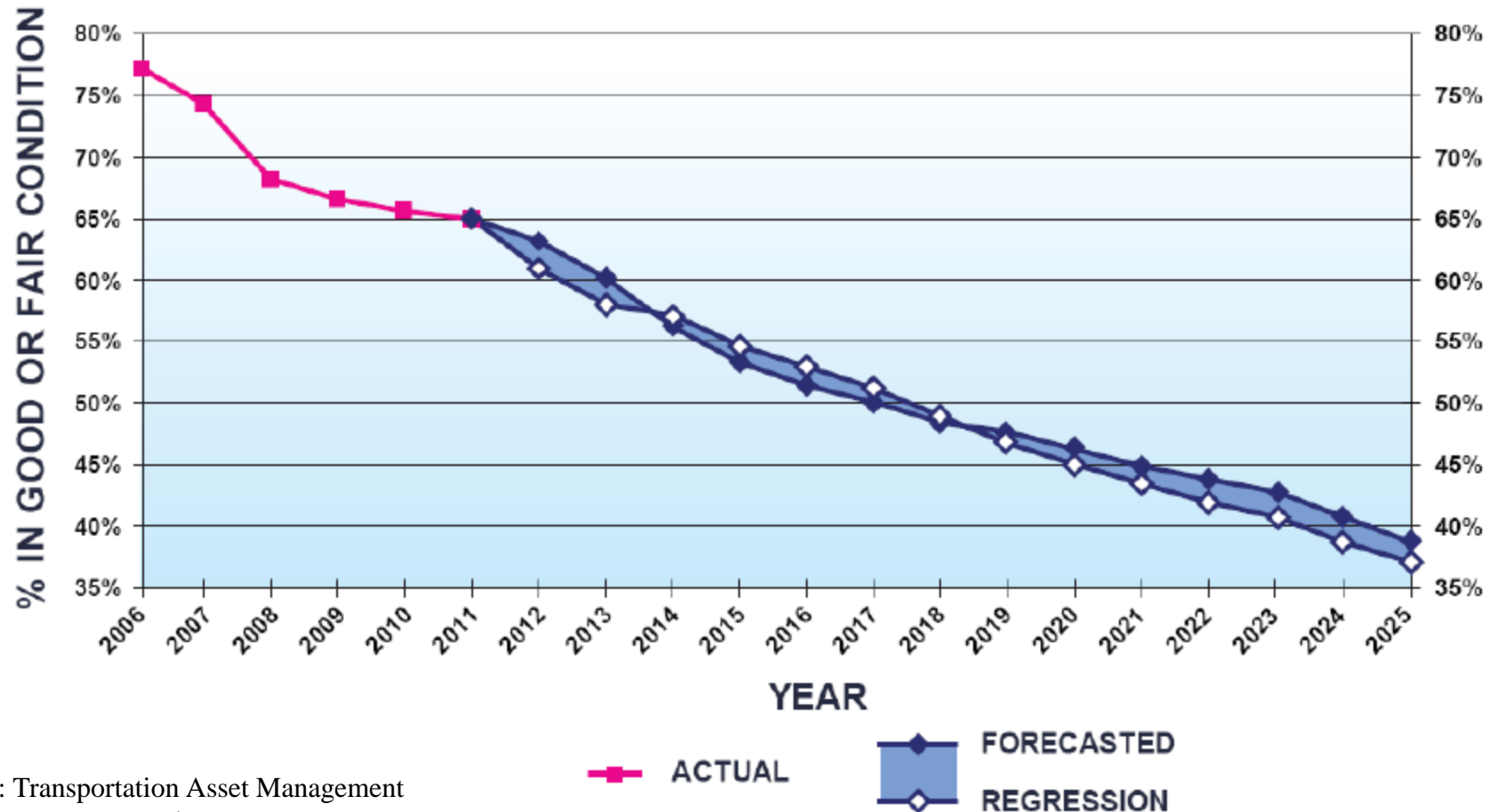


## PASER Ratings

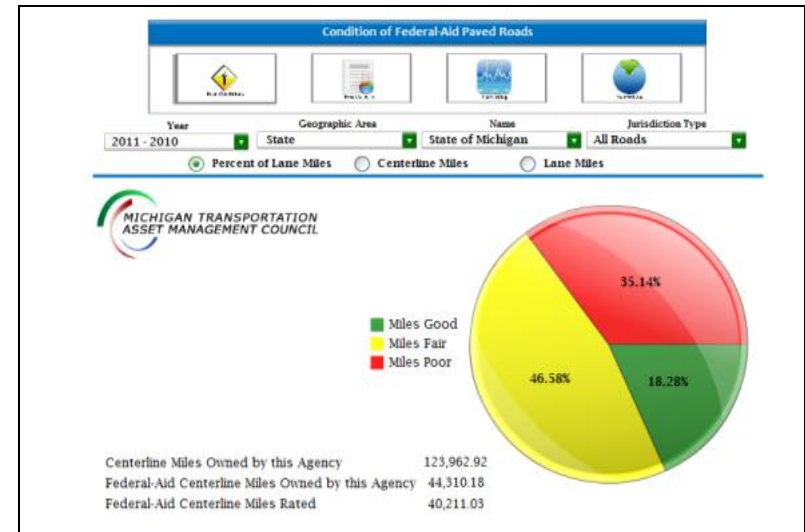
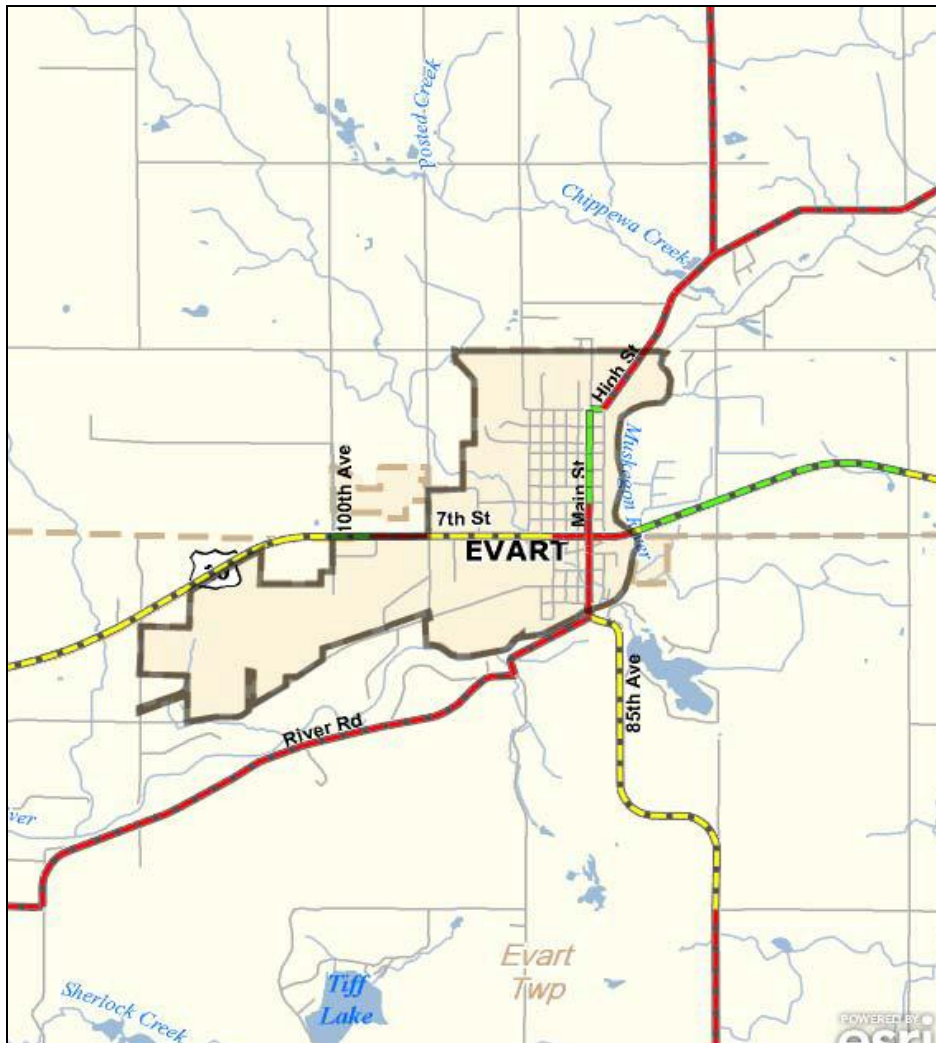


# Forecasted Road Conditions

**Forecast of Pavement Condition - 2012 to 2025**  
**Federal-Aid Roads**



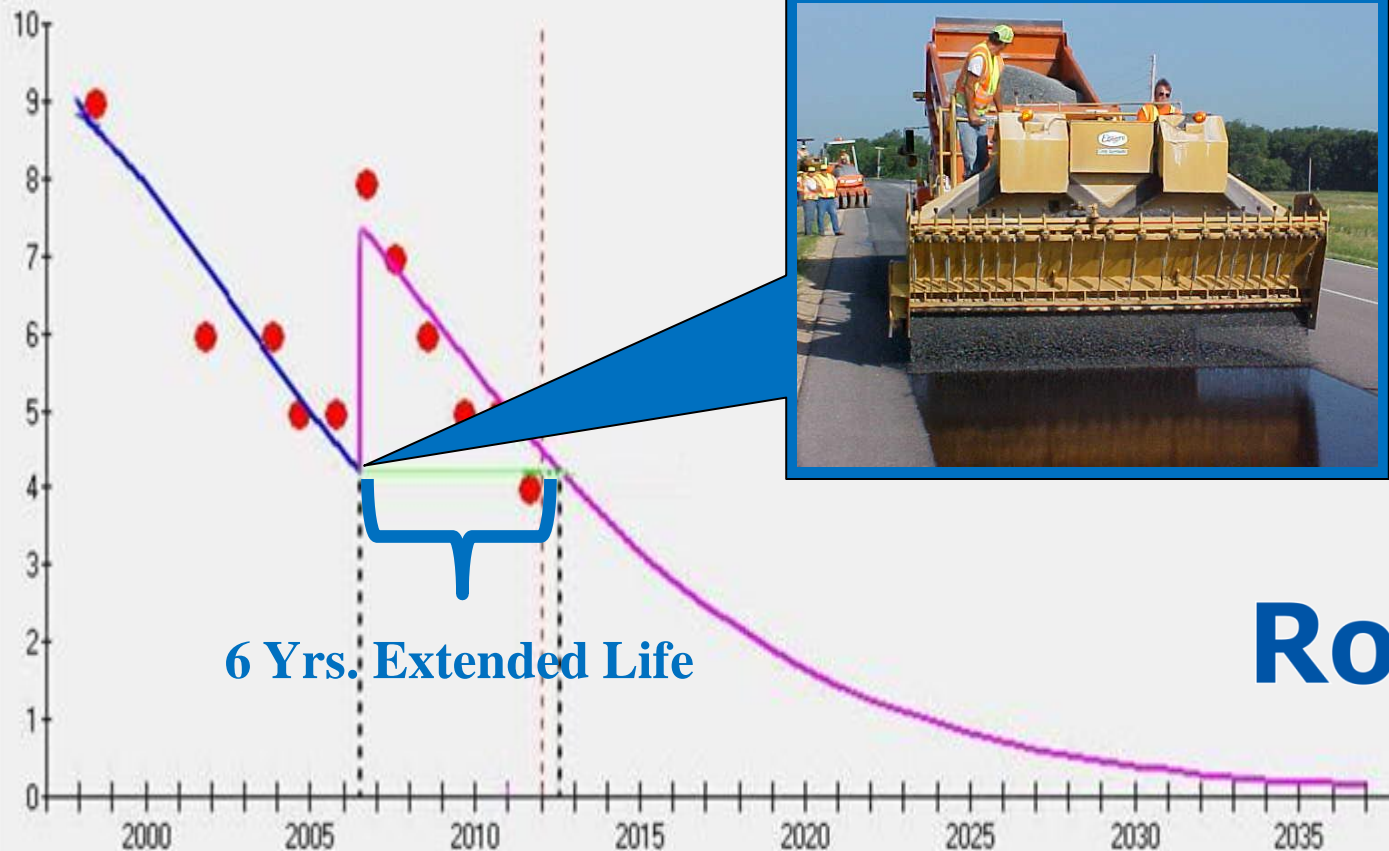
# Implementing Asset Management



# Maximizing Return on Investment

Gompertz Growth Model Unforced through Zero

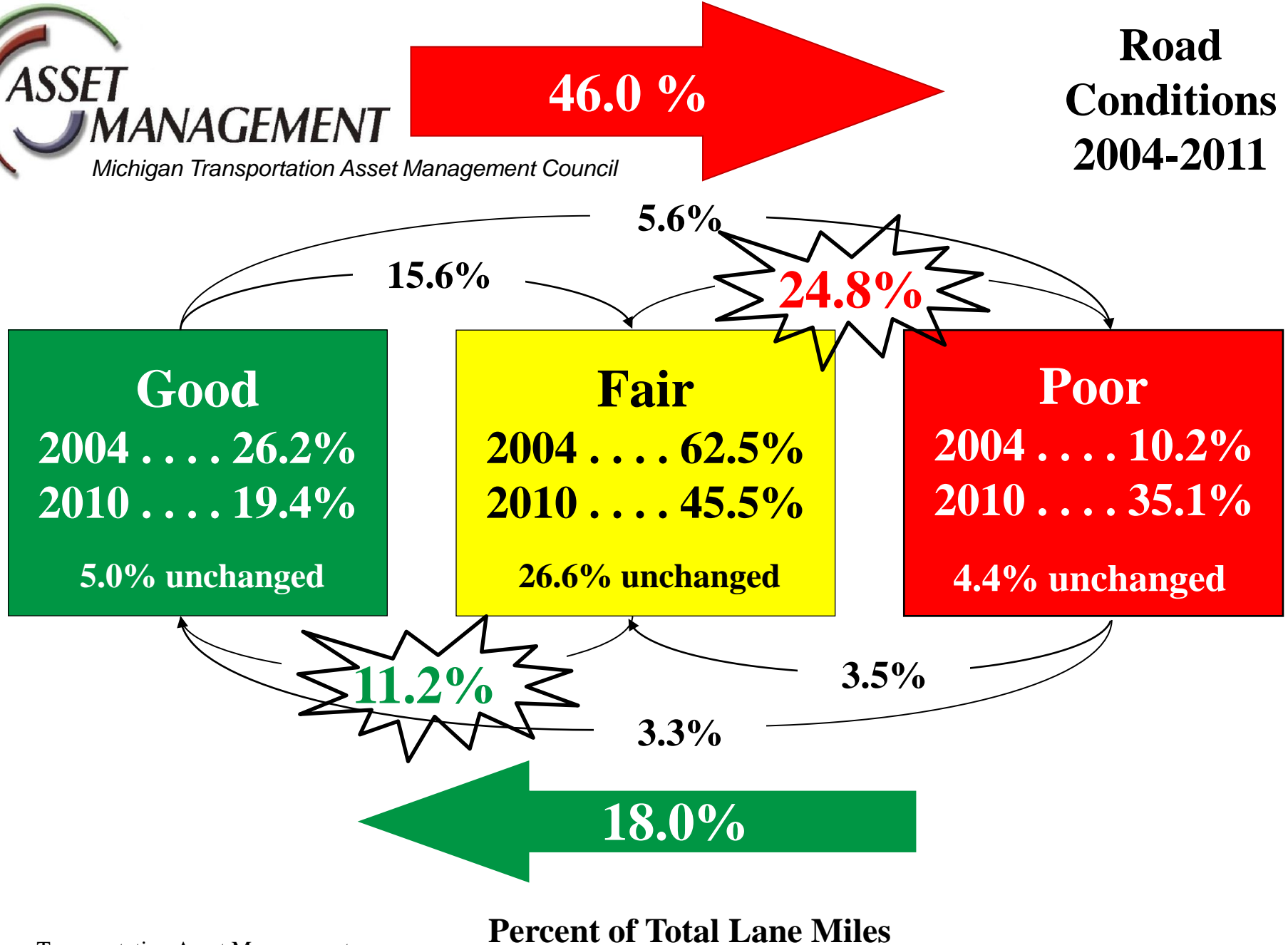
4.547 - 5.180



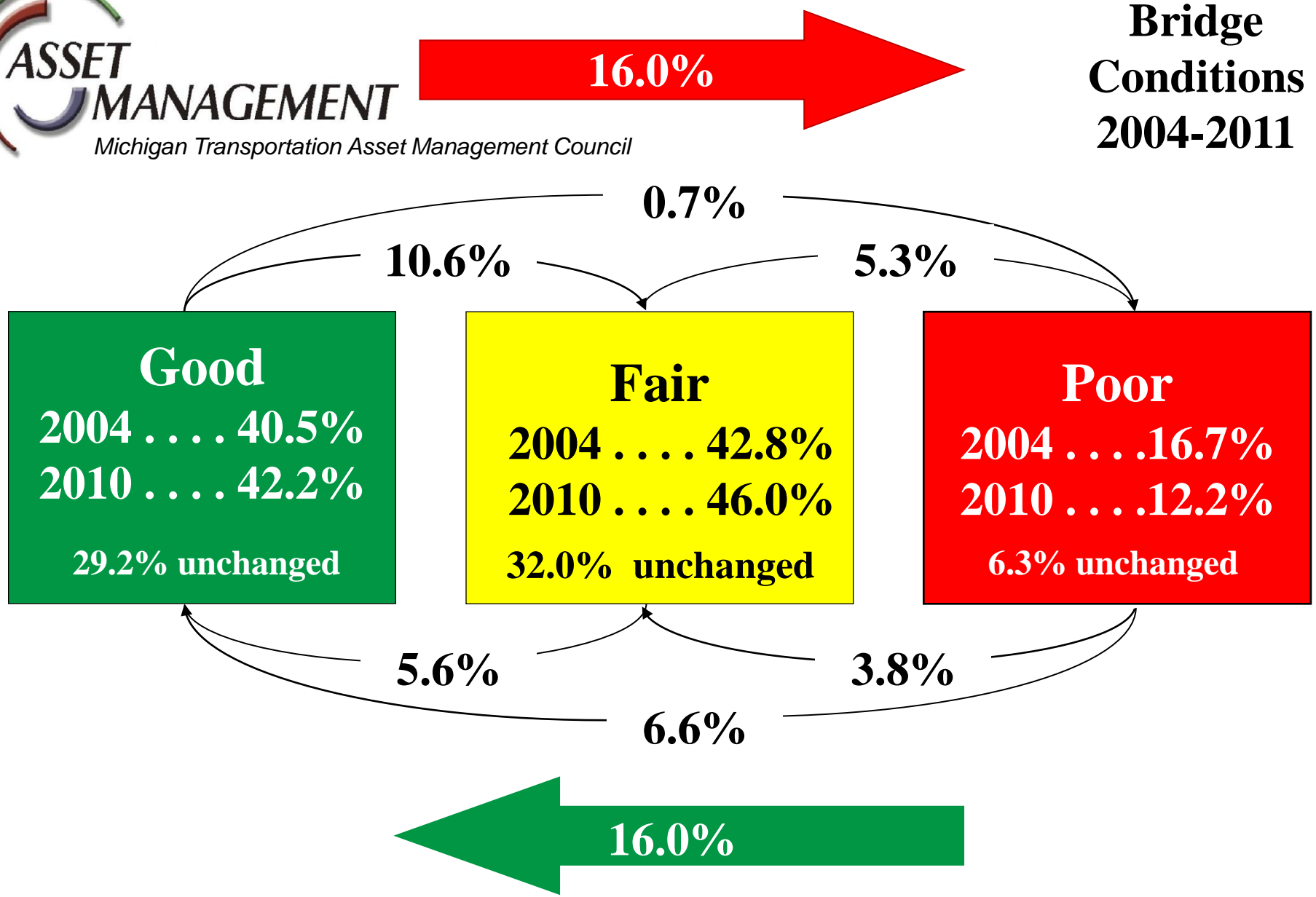
## Legend

- Actual Data Points
- - - Current Year
- 1998 Crush & Shape
- 2006 Sealcoat

**RoadSoft®**







# NEED vs. FUNDING

FISCAL YEAR	FUNDING APPLICATIONS	VALUE OF APPLICATIONS	FUNDING AVAILABLE	DIFFERENCE
2012	267	\$221 Million	\$46 Million	\$175 Million
2013	299	\$224 Million	\$45 Million	\$179 Million
2014	301	\$236 Million	\$45 Million	\$191 Million
2015	287	\$208 Million	\$45 Million	\$163 Million

## Bridge Construction Costs

(Estimate per sft of bridge deck area)

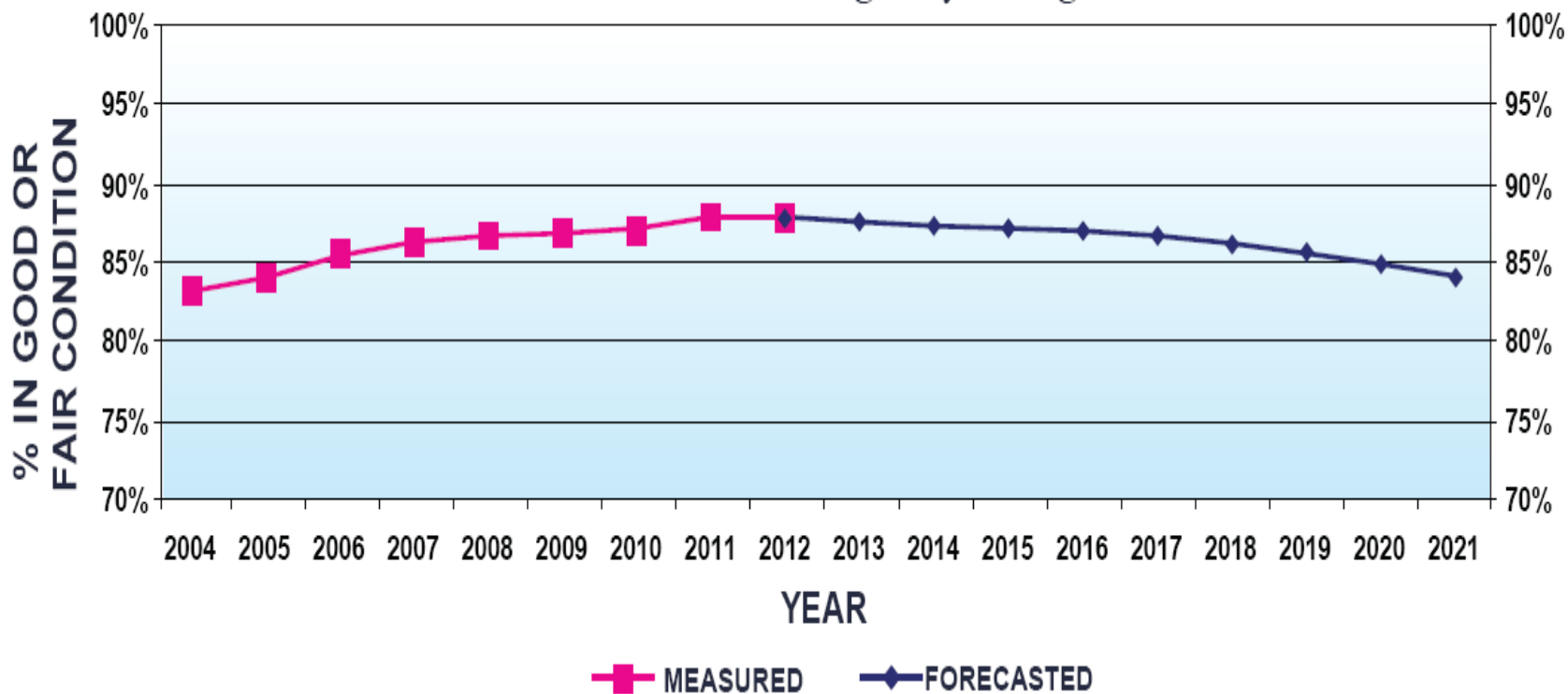
2005-2006:	\$135
2007:	\$190
2008-2012:	\$210

# LOCAL BRIDGE FUNDING APPLICATION TYPE

FISCAL YEAR	PREVENTATIVE MAINTENANCE	REHABILITATION	TOTAL REPLACEMENT
2012	19%	16%	65%
2013	24%	12%	64%
2014	26%	12%	62%
2015	35%	12%	53%

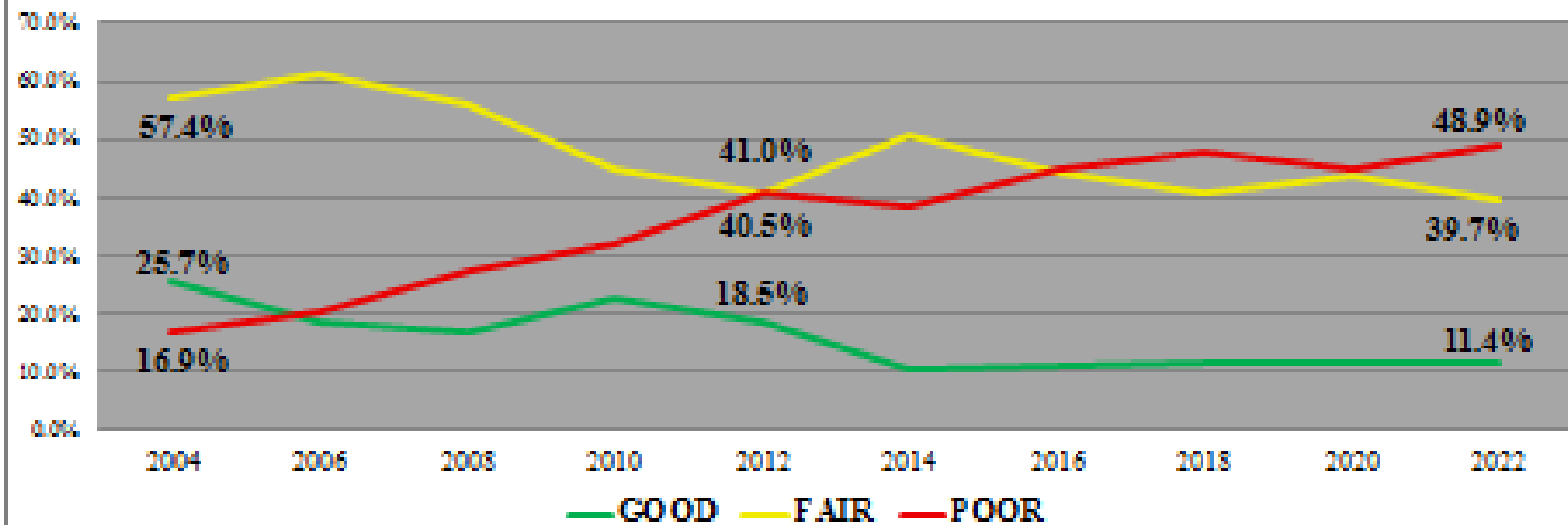
## Bridge Condition Forecast System - 2004 to 2021

### Trunkline and Local Agency Bridges





## KENT COUNTY ROAD COMMISSION PRIMARY ROAD CONDITION



2004 – 2012

MTF Revenue	- 9%	Diesel Fuel	+ 303%
Full-time Employees	- 13%	Salt	+ 128%
Miles / Snowplow Driver	+19%	Asphalt	+ 91%

Investment in Road Improvements - 53%